

SECTION **RSU**
 REAR SUSPENSION

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RSU

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PRECAUTIONS

PRECAUTIONS

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Precautions

EES001S6

- When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.
* Fuel, radiator coolant, and engine oil are full. Spare tire, jack, hand tools, and mats are in their designated positions.

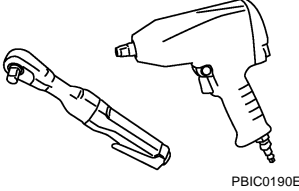
PREPARATION

PREPARATION

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Commercial Service Tools

EES001S7

Tool name	Description
<p data-bbox="162 298 272 323">Power tool</p>  <p data-bbox="852 499 922 514">PBIC0190E</p>	<p data-bbox="1015 298 1263 323">Removing nuts and bolts</p>

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NOISE VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

NOISE VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

PFP:54000

NVH Troubleshooting Chart

EES001S8

Use the chart below to help you find the cause of the symptom. If necessary, repair or replace the parts.

Symptoms		Possible cause and SUSPECTED PARTS		Reference page	
		Improper installation, looseness	Shock absorber deformation, damage or deflection	RSU-6	RSU-6
Symptoms	Noise	x	x	x	RSU-6
	Shake	x	x	x	RSU-7
	Vibration	x	x	x	RSU-6
	Shimmy	x	x	x	RSU-6
	Shudder	x	x	x	RSU-8
	Poor quality ride or handling	x	x	x	RSU-6
		Bushing or mounting deterioration			PR-3, "NVH Troubleshooting Chart"
		Parts interference			RFD-8 (C200), RFD-42 (M226 without ELD), RFD-76 (M226 with ELD)
		Spring fatigue			RAX-5 (C200), RAX-17 (M226)
		Suspension looseness			WT-4, "NVH Troubleshooting Chart"
		PROPELLER SHAFT			WT-4, "NVH Troubleshooting Chart"
		REAR FINAL DRIVE			BR-5, "NVH Troubleshooting Chart"
		AXLE			PS-5, "NVH Troubleshooting Chart"
		TIRES			
		ROAD WHEEL			
		BRAKES			
		STEERING			

x: Applicable

REAR SUSPENSION ASSEMBLY

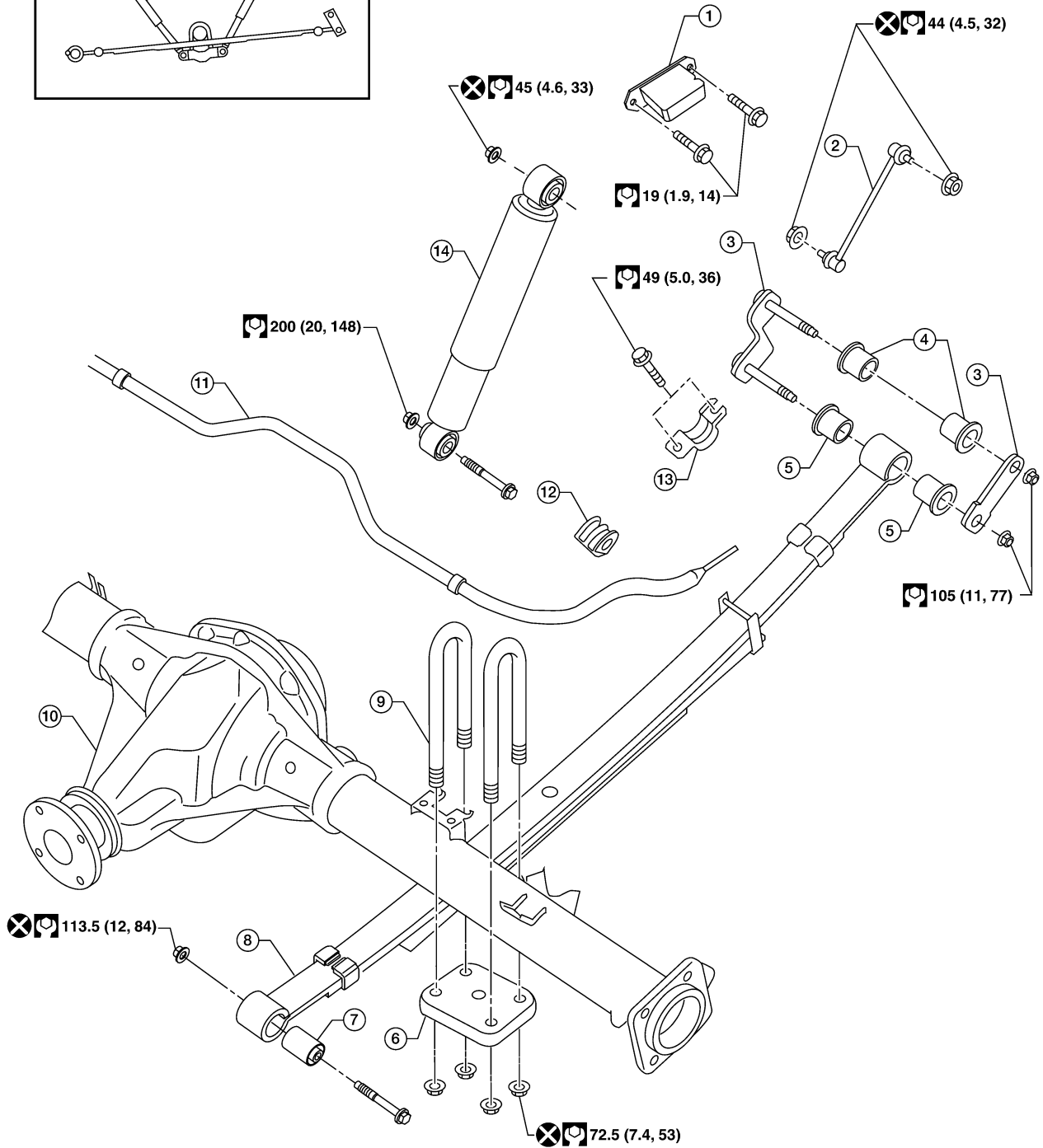
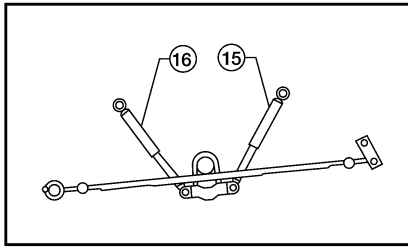
REAR SUSPENSION ASSEMBLY

Components

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EES001S9

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REAR SUSPENSION ASSEMBLY

- | | | |
|---------------------------------|-------------------------------|--------------------------------|
| 1. Bumper | 2. Connecting rod | 3. Rear spring shackle |
| 4. Rear spring shackle bushing | 5. Rear spring bushing (rear) | 6. Rear spring pad |
| 7. Rear spring bushing (front) | 8. Rear leaf spring | 9. Rear spring clip U-bolts |
| 10. Rear final drive | 11. Stabilizer bar | 12. Bushing |
| 13. Stabilizer bar clamp | 14. Shock absorber | 15. Shock absorber (left side) |
| 16. Shock absorber (right side) | | |

CAUTION:

When installing the components with rubber bushings, the final tightening of the nuts and bolts must be done with the vehicle in an unladen condition (the fuel, engine coolant, and engine oil full; the spare tire, jack, hand tools and mats in their designated positions) with the tires on the ground.

On-Vehicle Inspection and Service

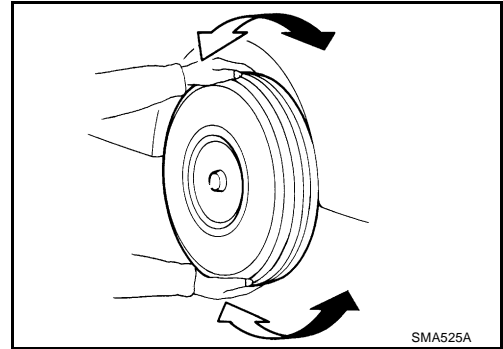
EES001SA

- Check the rear suspension parts for any excessive play, cracks, wear, and other damage.
- Shake each rear wheel to check for any excessive play as shown.
- Tighten all of the nuts and bolts to the specified torque.

CAUTION:

When installing the components with rubber bushings, the final tightening of the nuts and bolts must be done with the vehicle in an unladen condition (the fuel, engine coolant, and engine oil full; the spare tire, jack, hand tools and mats in their designated positions) with the tires on the ground.

- Check the shock absorbers for oil leaks, deformation, and other damage.
- Check the shock absorber bushings for excessive wear and other damage.



SHOCK ABSORBER

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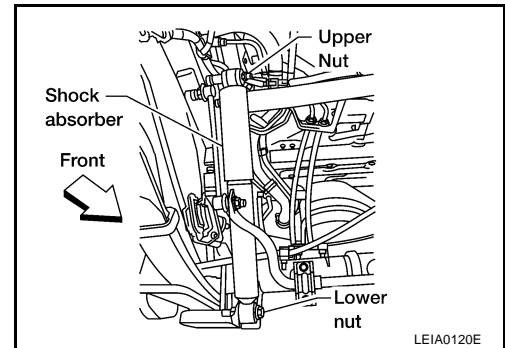
SHOCK ABSORBER

Removal and Installation

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REMOVAL

1. Support the rear final drive and suspension assembly using a suitable jack.
2. Remove the shock absorber upper and lower nuts and bolts using power tool.



3. Remove the shock absorber.

INSPECTION AFTER REMOVAL

Inspect the shock absorber for any oil leaks, cracks, or deformations. Replace the shock absorber as necessary.

INSTALLATION

Installation is in the reverse order of removal.

Shock absorber upper and lower nuts : Refer to [RSU-5, "Components"](#) .

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LEAF SPRING

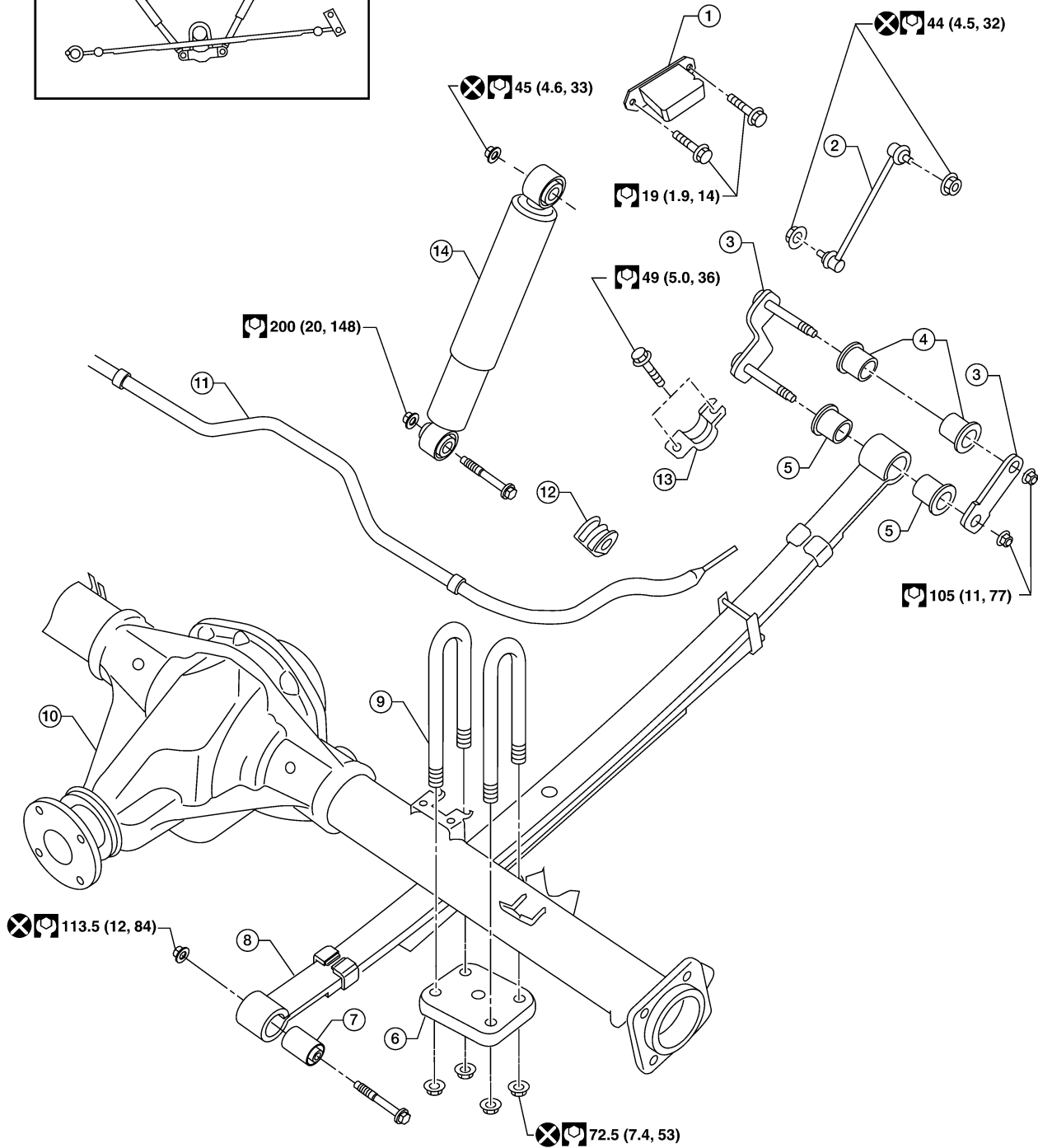
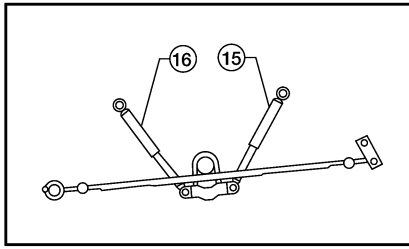
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LEAF SPRING

Removal and Installation

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LEAF SPRING

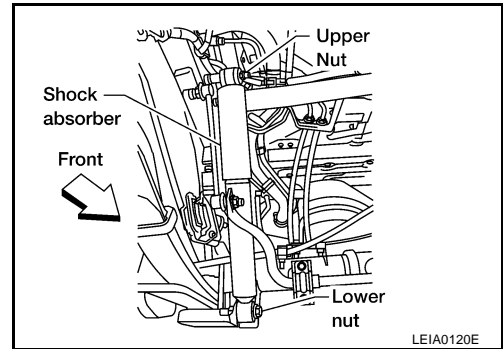
- | | | |
|---------------------------------|-------------------------------|--------------------------------|
| 1. Bumper | 2. Connecting rod | 3. Rear spring shackle |
| 4. Rear spring shackle bushing | 5. Rear spring bushing (rear) | 6. Rear spring pad |
| 7. Rear spring bushing (front) | 8. Rear leaf spring | 9. Rear spring clip U-bolts |
| 10. Rear final drive | 11. Stabilizer bar | 12. Bushing |
| 13. Stabilizer bar clamp | 14. Shock absorber | 15. Shock absorber (left side) |
| 16. Shock absorber (right side) | | |

CAUTION:

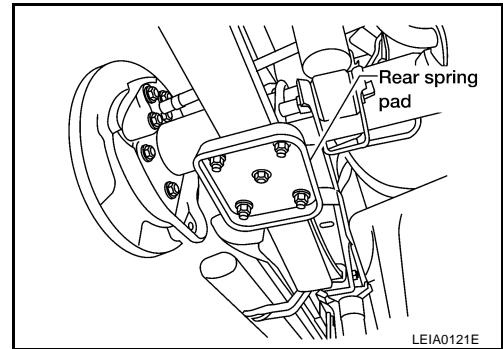
When installing the components with rubber bushings, the final tightening of the nuts and bolts must be done with the vehicle in an unladen condition (the fuel, engine coolant, and engine oil full; the spare tire, jack, hand tools and mats in their designated positions) with the tires on the ground.

REMOVAL

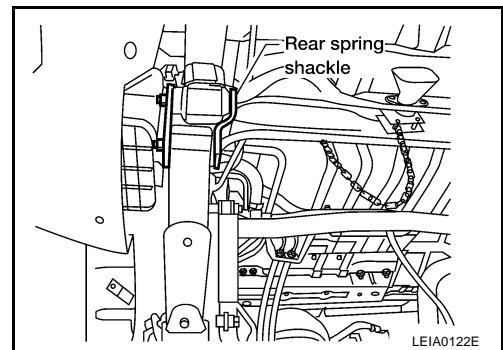
1. Remove the spare tire.
2. For the RH side, remove the tailpipe. Refer to [EX-3, "EXHAUST SYSTEM"](#).
3. Support the rear final drive assembly with a suitable jack to relieve the tension from the rear leaf spring.
 - The axle weight should be supported, but there should be no compression in the rear leaf spring.
4. Remove the shock absorber lower nut and bolt using power tool.



5. Remove the four rear spring clip U-bolt nuts using power tool, then remove the rear spring pad.



6. Remove the rear spring shackle and bushings using power tool.



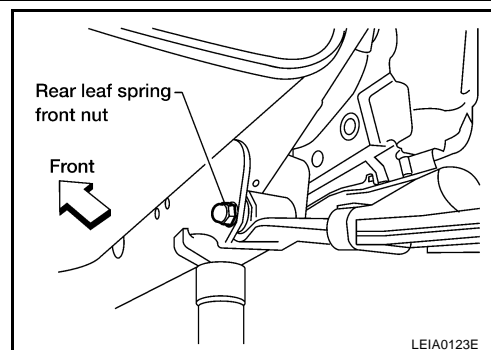
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LEAF SPRING

7. Remove the rear leaf spring front nut and bolt using power tool.
8. Remove the rear leaf spring.

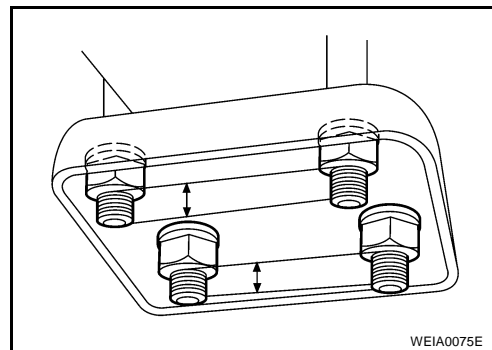


INSPECTION AFTER REMOVAL

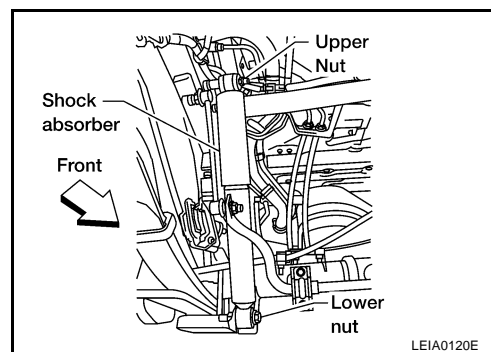
- Check the rear leaf spring for any cracks or damage. Replace the rear leaf spring if necessary.
- Check the rear spring shackle, rear spring clip U-bolts, bumper, and rear spring pad for excessive wear, cracks, straightness, and damage. Replace any components if necessary.
- Check all bushings for deformation and cracks. Replace any bushings if necessary.

INSTALLATION

1. Apply soapsuds to all of the rubber bushings.
2. Install the rear spring shackle and rear leaf spring front nut and bolt. Finger-tighten the nuts.
3. Install the rear spring clip U-bolts on top of the axle case.
4. Install the rear spring pad, and nuts under the rear spring.
5. Tighten the rear spring clip U-bolt nuts diagonally and evenly to specification.
 - Tighten the rear spring clip U-bolt nuts so the lengths of all the exposed rear spring clip U-bolt threads under spring pad are equal in length within a tolerance of 3 mm (0.12 in), as shown.



6. Install the shock absorber, and finger-tighten the upper and lower nuts.



7. Remove the jack supporting the rear final drive assembly and bounce the rear of the vehicle to stabilize the suspension.
8. For the RH side, install the tailpipe. Refer to [EX-3, "EXHAUST SYSTEM"](#).
9. Install the spare tire.
10. Tighten the rear spring shackle nuts, rear leaf spring front nut, and shock absorber upper and lower nuts to specification.
 - When installing the components with rubber bushings, the final nut tightening must be carried out under unladen* conditions with the tires on level ground.
* (Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.)

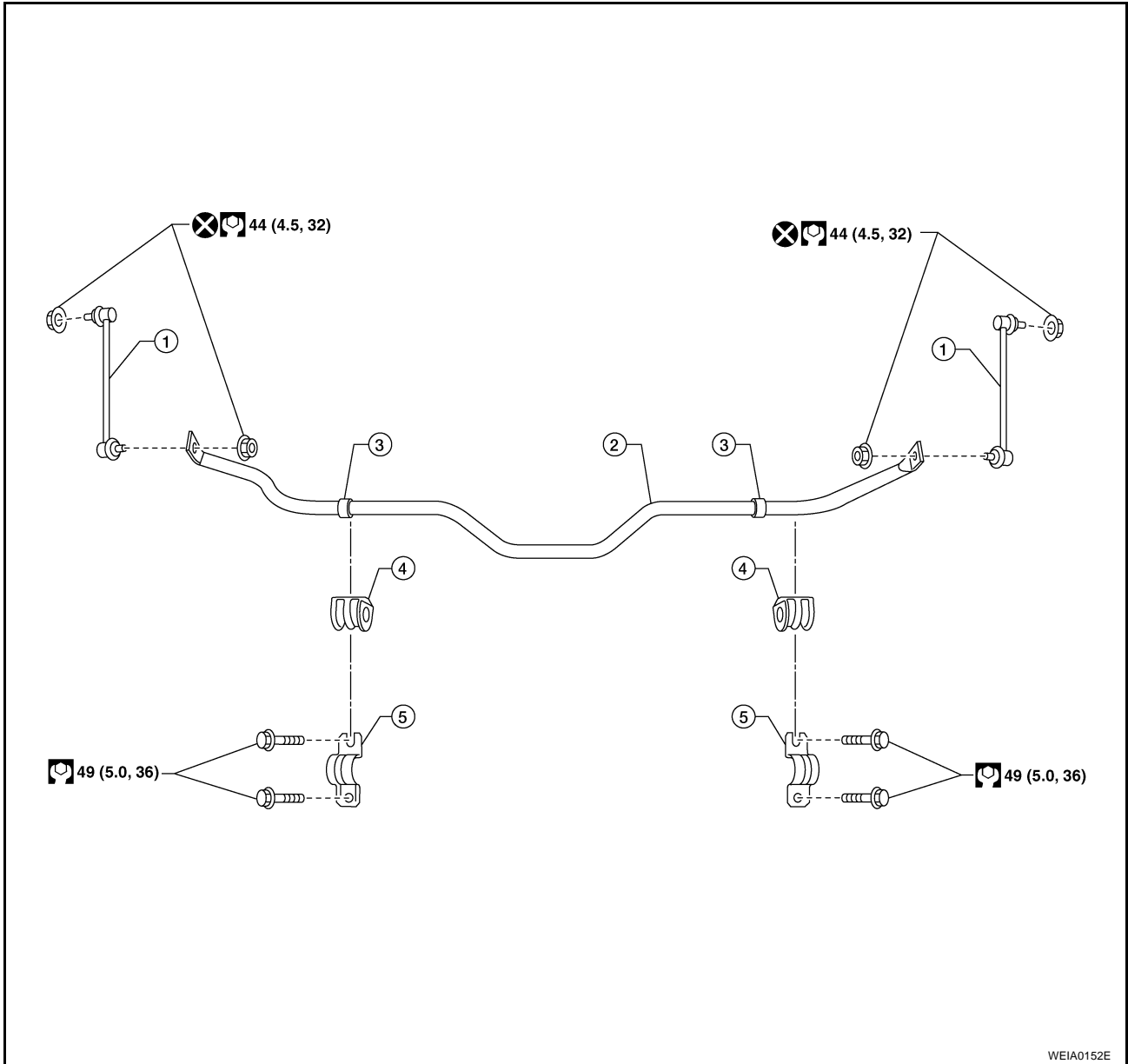
STABILIZER BAR

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STABILIZER BAR

Removal and Installation

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1. Connecting rod
2. Stabilizer bar
3. Crimp ring (part of stabilizer bar)
4. Bushing
5. Stabilizer bar clamp

REMOVAL

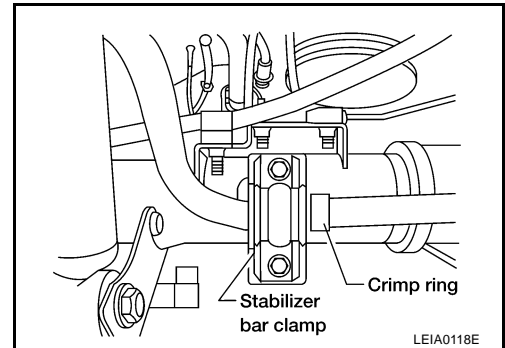
1. Disconnect the stabilizer bar ends from the connecting rods using power tool.
2. Remove the stabilizer bar clamps using power tool, and remove the bushings.
3. Remove the stabilizer bar.

STABILIZER BAR

INSTALLATION

Installation is in the reverse order of removal.

- Install the stabilizer bar clamp and bushing so they are positioned outside of the crimp ring on the stabilizer bar.



Inspection

- Check stabilizer bar for any deformation, cracks, or damage and replace if necessary.
- Check rubber bushings for deterioration, or cracks and replace if necessary.

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SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

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General Specifications (Rear)

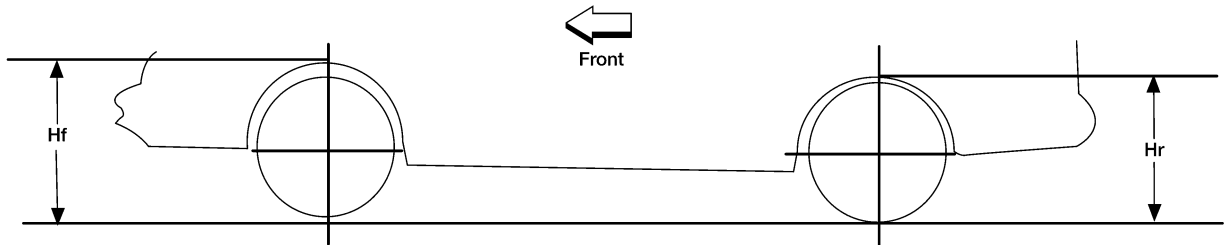
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Suspension type	Rigid axle with semi-elliptic leaf springs
Shock absorber type	Double-acting hydraulic

Wheelarch Height (Unladen*¹)

EES001SE

Unit: mm (in)



LEIA0085E

Engine type	VQ40DE					
	2WD			4WD		
Drive type	S	S O/R	SE	S	S O/R	SE
Applied model	S	S O/R	SE	S	S O/R	SE
Tire size	265/70R16	265/75R16	265/65R17	265/70R16	265/75R16	265/65R17
Front wheelarch height (Hf)	839 (33.03)	851 (33.50)	841 (33.11)	858 (33.78)	870 (34.25)	859 (33.82)
Rear wheelarch height (Hr)	872 (34.33)	884 (34.80)	872 (34.33)	892 (35.12)	904 (35.59)	892 (35.12)

*1: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

SERVICE DATA AND SPECIFICATIONS (SDS)
